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1944

SC323A

# TM 11-2366

WAR DEPARTMENT TECHNICAL MANUAL

U.S. Army

## PHOTOGRAPHIC EQUIPMENT

### PH-383



**RESTRICTED.** DISSEMINATION OF RESTRICTED MATTER. The information contained in restricted documents and the essential characteristics of restricted matériel may be given to any person known to be in the service of the United States and to persons of undoubted loyalty and discretion who are cooperating in Government work, but will not be communicated to the public or to the press except by authorized military public relations agencies. (See also par. 28, AR 380-5, 15 Mar. 1944.)

WAR DEPARTMENT

5 OCTOBER 1944



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WAR DEPARTMENT,  
WASHINGTON 25, D. C., 5 OCTOBER 1944.

TM 11-2366, Photographic Equipment PH-383, is published for the information and guidance of all concerned.

[A. G. 300.7 (13 Mar. 44).]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,  
*Chief of Staff.*

OFFICIAL:

J. A. ULIO,  
*Major General,  
The Adjutant General.*

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(For explanation of symbols see FM 21-6.)

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# DESTRUCTION NOTICE

**WHY** —To prevent the enemy from using or salvaging this equipment for his benefit.

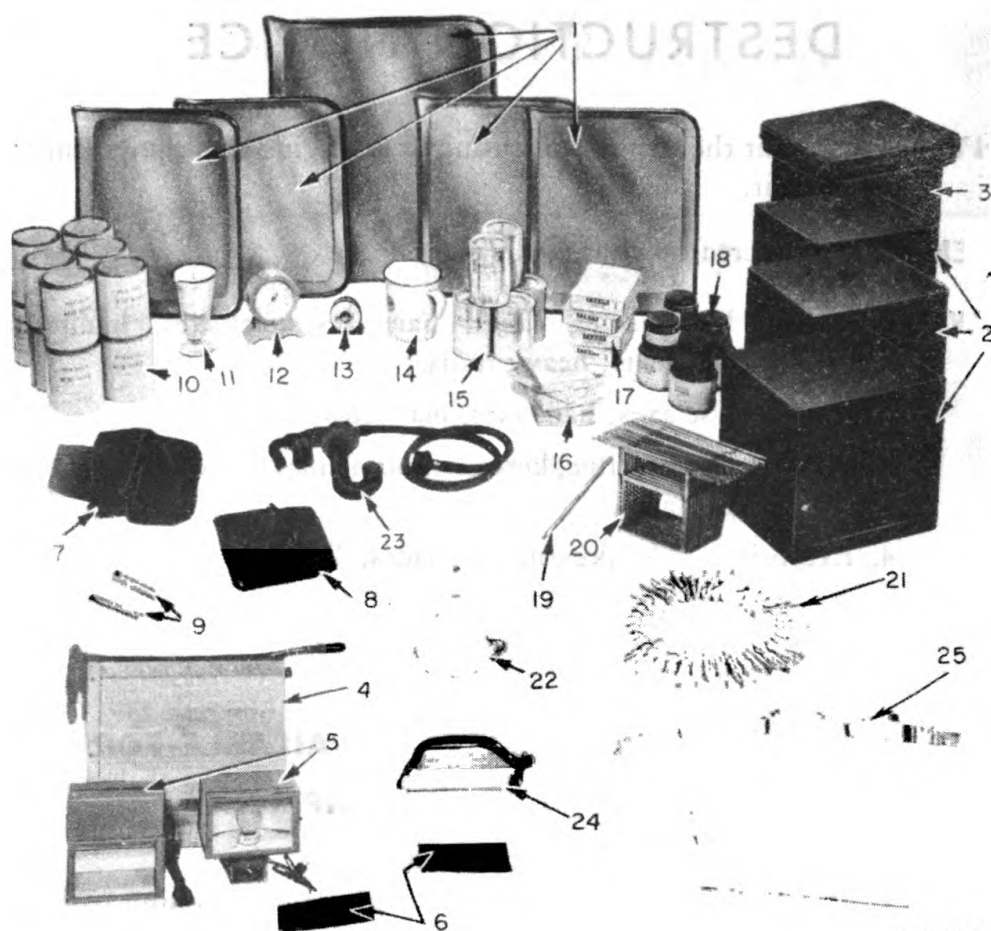
**WHEN**—When ordered by your commander.

**HOW** —1. Smash—Use sledges, axes, handaxes, pickaxes, hammers, crowbars, heavy tools.  
2. Cut —Use axes, handaxes, machetes.  
3. Burn —Use gasoline, kerosene, oil, flame throwers, incendiary grenades.  
4. Explosives—Use firearms, grenades, TNT.  
5. Disposal —Bury in slit trenches, fox holes, other holes.  
Throw in streams. Scatter.

## USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT.

**WHAT**—1. Smash—Hard rubber boxes and tank, safelights, film hangers, timers, roller, trimmer, thermometers, siphon, funnel, cup, graduate.  
2. Cut —Changing bag, apron, siphon hose, lamp leads.  
3. Burn —Everything inflammable. Film clips, changing bag, apron, film, paper and rubber boxes, tank.  
4. Bend —Ferrotyping plates and trays.  
5. Bury or scatter—Film, printing paper, chemicals, anything that has not been completely destroyed in some other manner.

# DESTROY EVERYTHING



TL91804

- |  |                            |                          |
|--|----------------------------|--------------------------|
| 1. Trays (Four trays PH-161, 1 Tray PH-166). | 9. Thermometer PH-28.      | 18. Chemical, developer. |
| 2. Box PH-143.                               | 10. Chemical, acid-fixing. | 19. Rod PH-230.          |
| 3. Tank PH-185.                              | 11. Graduate PH-10.        | 20. Hanger PH-71.        |
| 4. Trimmer PH-8.                             | 12. Timer PH-29.           | 21. Clip PH-23.          |
| 5. Lamp PH-207-A.                            | 13. Timer PH-109.          | 22. Funnel PH-175.       |
| 6. Safelight PH-364.                         | 14. Cup PH-60.             | 23. Siphon PH-244.       |
| 7. Bag PH-105.                               | 15. Chemical, developer.   | 24. Roller PH-204.       |
| 8. Apron MC-90.                              | 16. Film, packs, 4x5.      | 25. Plate PH-152-A.      |
|  | 17. Paper, photographic.   |                          |

Figure 1. Photographic Equipment PH-383, component parts.

# RESTRICTED

## SECTION I DESCRIPTION

**1. PURPOSE.** This technical manual is issued to cover operations and maintenance of Photographic Equipment PH-383. The manual covers description, list of component parts, operation, installation, maintenance, and general information.

**2. GENERAL DESCRIPTION.** Photographic Equipment PH-383 contains the minimum darkroom equipment necessary to take care of the photographic needs of a regiment which is authorized the equipment. The darkroom equipment is designed to be readily transported and easily set up in any available place that may be converted into a darkroom. Camera Equipment PH-104 (TM 11-2352), Exposure Meter PH-77-C (TM 11-2351), and Printer PH-192 (TM 11-2385), which are component parts of Photographic Equipment PH-383, are covered in separate manuals.

**3. COMPONENT PARTS.** The component parts list is as follows:

<i>Quantity</i>	<i>Article</i>
1	APRON MC-90: rubber; photographers; 46 inches long.
1	BAG PH-105: daylight changing zipper; photographic; for 8" x 10" plates.
3	BOX PH-143: developing or fixing; hard rubber; holds twenty 5" x 7", twelve 6-1/2" x 8-1/2", or twelve 8" x 10" films; complete with floating lid.
1	CAMERA EQUIPMENT PH-104: per attached parts list (covered in TM 11-2352).
36	CLIP PH-23: photographic; wood 3-inch.
1	CONNECTOR: battery; heavy-duty; 2-conductor; No. 16 AWG wire, 2 ft. long having female plug on one end and 2 battery clips with sleeves on the other.
1	CORD: extension; 25-foot; rubber-covered; 2-conductor; with standard 110-volt male plug on one end and cube tap on other.
1	CUP PH-60: measuring; white enamel; 1-quart; graduated in ounces on inside; with handle.

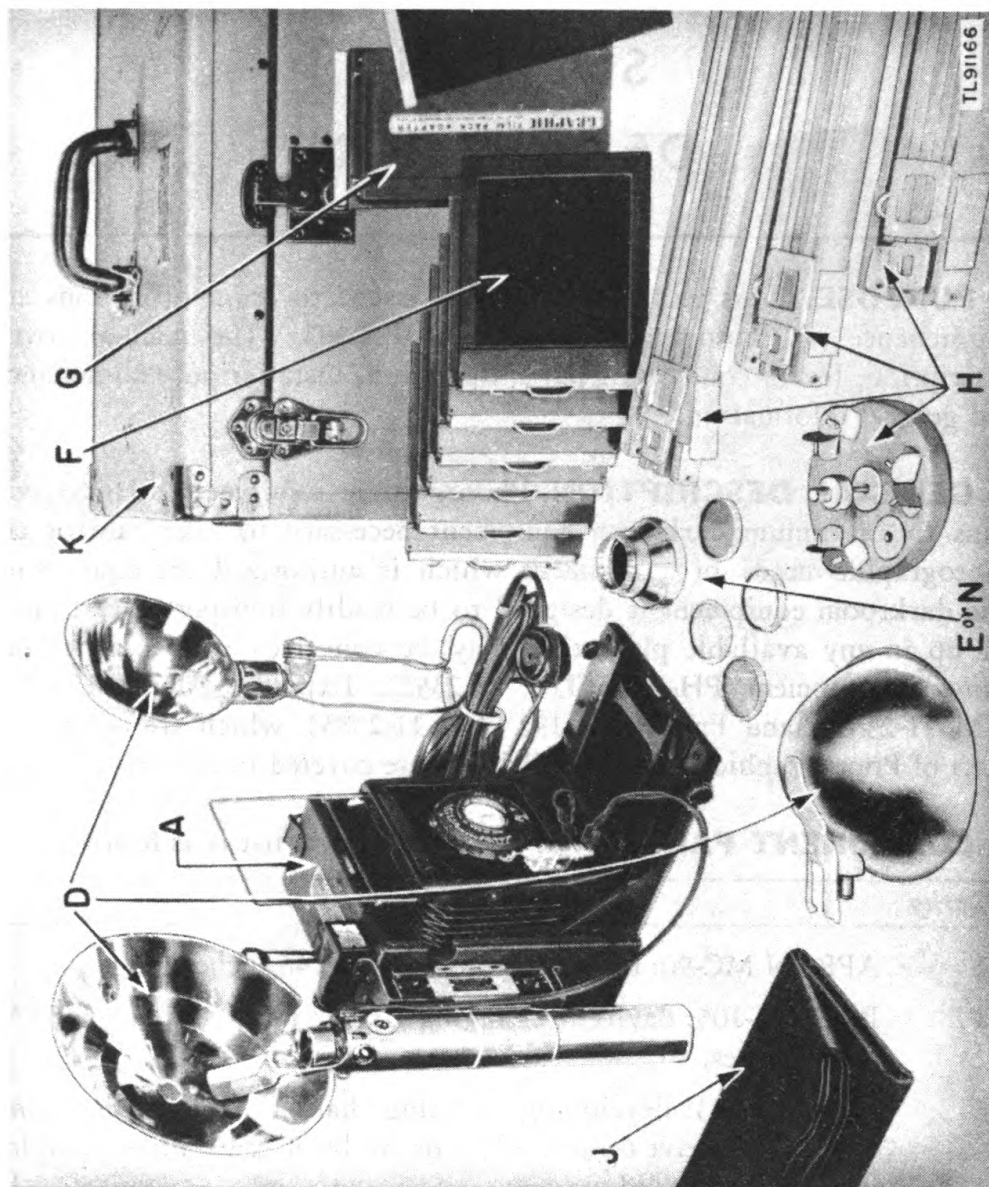
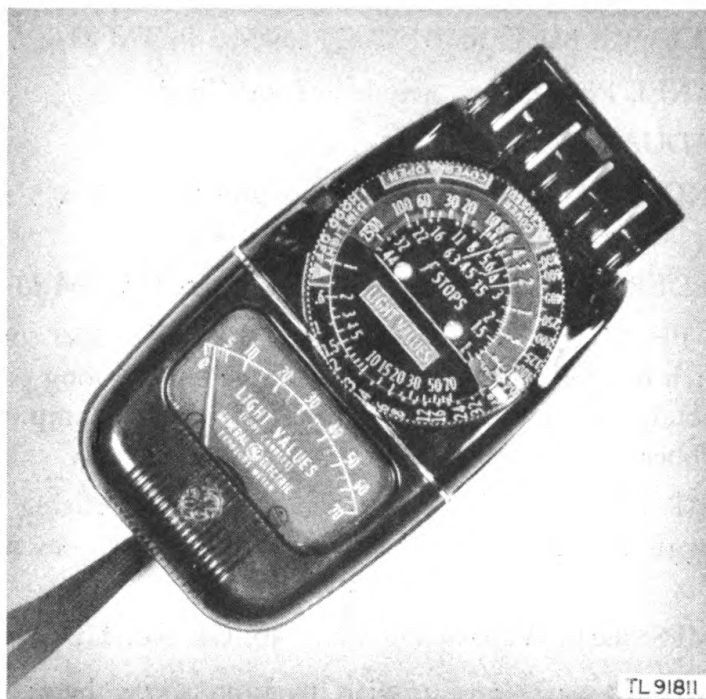
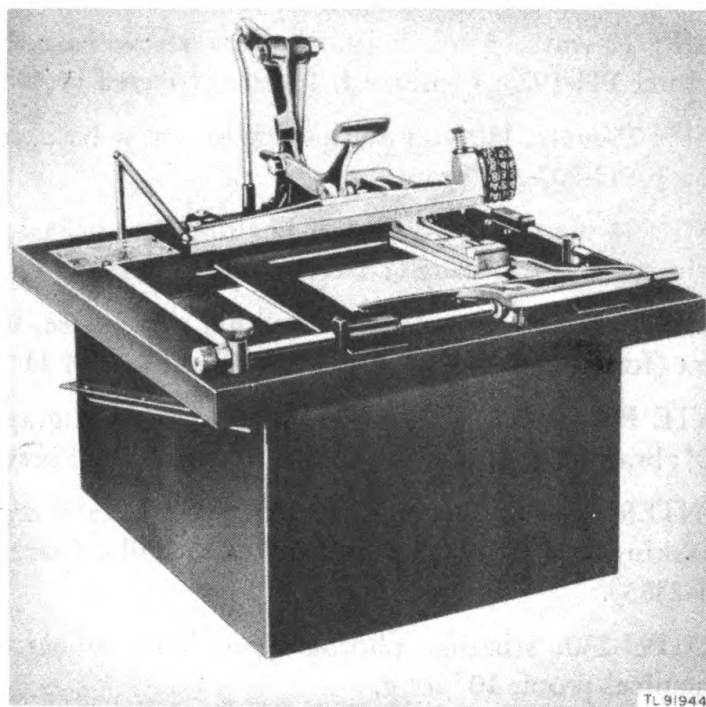


Figure 2. Camera Equipment PH-104.

<i>Quantity</i>	<i>Article</i>
1	EXPOSURE METER PH-77-C (covered in TM 11-2351).
1	FUNNEL PH-175: enamel; 1-pint; 6- $\frac{1}{4}$ -inch.
1	GRADUATE PH-10.
12	HANGER PH-71: developing; film and plate; 4" x 5"; celluloid; replaces Eastman metal hanger No. 4A.
6	HOLDER PH-81: cut-film; 4" x 5" (covered in TM 11-2352).
3	JUG PH-297: battery filler type; molded hard rubber composition; with handle; rubber hose, $\frac{3}{8}$ " diameter, 18" long permanently attached near bottom; complete with hose clamp and special rubber stopper.
2	LAMP PH-207-A: lamp darkroom; 5" x 7"; tilting base with toggle switch, cord, and plug; requires but does not include 5" x 7" safelight and 25-watt bulb.
120	LAMPS: flash; Wabash Press No. 40, GE No. 11, or equal.
4	LAMP: 10-watt, 6-volt with medium screw base; clear; (for Lamp PH-207-A); 2 installed, 2 spare.
4	LAMP: 25-watt; 6-volt with medium screw base; clear or frosted (for Printer PH-192); 2 installed, 2 spare (covered in TM 11-2385).
2	LAMP: 10-watt; 6-volt with medium screw base; amber (for Printer PH-192); 1 installed, 1 spare (covered in TM 11-2385).
2	LAMP: 25-watt; 110-volt with medium screw base; frosted (for Lamp PH-207-A); spare.
2	LAMP: 75-watt; 110-volt with medium screw base; clear (for Printer PH-192); spare (covered in TM 11-2385).
1	LAMP: 10-watt; 110-volt with medium screw base; inside flame tint (for Printer PH-192); spare (covered in TM 11-2385).
6	PLATE PH-152-A: (USA 6.30); ferrotype; photographic; 14" x 20"; brass base; chromium-plated to 0.018" thickness.
1	PRINTER PH-192: printer; contact; 5" x 7"; table model; with masking blade; includes two 75-watt bulbs (covered in TM 11-2385).
1	ROD PH-230: stirring; photographic hard rubber; acid- and chemical-proof; 10" long.
1	ROLLER PH-204: print; double; with two 8" rolls covered with heavy rubber.

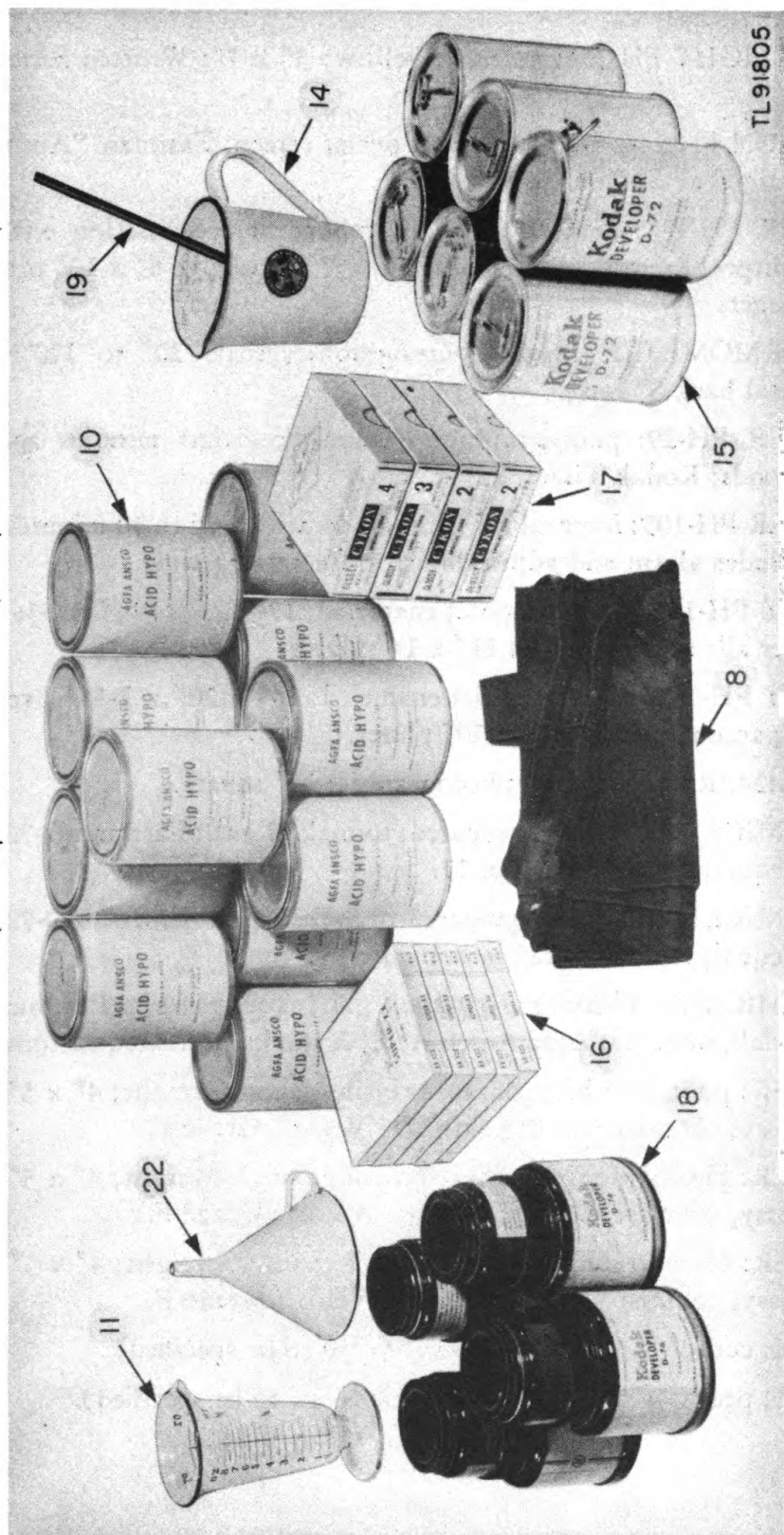


*Figure 3. Exposure Meter PH-77-C.*



*Figure 4. Printer PH-192.*

<i>Quantity</i>	<i>Article</i>
2	SAFELIGHT PH-364: greenish yellow; 5" x 7"; Wratten Series 0A.
1	SIPHON PH-244: with hose and outlet screen; Eastman "Automatic Tray Siphon."
1	TANK PH-185: developing; hard rubber or composition with lightproof cover; holds twenty 5" x 7" or twelve 8" x 10" film hangers.
2	THERMOMETER PH-28: photographic; scale 20° to 120°F; metal back 5" long.
1	TIMER PH-29: photographic; 2 hands; registers minutes and seconds; Kodak Timer.
1	TIMER PH-109: interval for timing operations up to 30 minutes; includes alarm and adjustable stop for setting time.
4	TRAY PH-161: photographic; enameled: 17-½" x 14-½" x 2-½" over all; accommodates 11" x 14" plates.
1	TRAY PH-166: photographic; enameled; 24" x 20" x 2-½" over all; accommodates 16" x 20" plates.
1	TRIMMER PH-8: print; photographic; 15" square.
4 cans	CHEMICAL: developer; prepared; to make 1 gal.; Eastman D-76, or equal, Agfa Ansco No. 17.
6 cans	CHEMICAL: developer; prepared to make 1 gal.; Eastman D-72, or equal, Agfa No. 125 in laminated cartons.
12 cans	CHEMICAL: acid-fixing; to make 1 gal.; as supplied by Eastman Kodak, or equal, Agfa Ansco Acid, Hypo in laminated cartons.
2 gross	PAPER: photographic; contact-printing; single-weight; 4" x 5"; glossy; contrast No. 2; Eastman "Velox" Grade F.
1 gross	PAPER: photographic; contact-printing; single-weight; 4" x 5"; glossy, contrast No. 3; Eastman "Velox" Grade F.
1 gross	PAPER: photographic, contact-printing; single-weight; 4" x 5"; glossy; contrast No. 4; Eastman "Velox" Grade F.
3 doz.	FILM: cut; 4" x 5"; panchromatic (type to be specified).
5	FILM: packs; 4" x 5"; panchromatic (type to be specified).



8. Apron MC-90.  
 10. Chemical, acid-fixing.  
 11. Graduate PH-10.  
 14. Cup PH-60.  
 15. Chemical, developer.  
 16. Film, packs, 4x5.  
 17. Paper, photographic.  
 18. Chemical, developer.  
 19. Rod PH-230.  
 22. Funnel PH-175.

Figure 5. Chemicals, paper, and film issued with Photographic Equipment PH-383.

## SECTION II

# INSTALLATION AND OPERATION

---

**4. UNPACKING.** Photographic Equipment PH-383 is packed for shipment in two boxes. The first box contains all the equipment except Box PH-143, three Jugs PH-297, Printer PH-192, Tank PH-185, and Trimmer PH-8, which are packed in the second box. Take great care while unpacking these boxes, so that the contents will not be damaged. If a prying tool is used, it must be handled so that the prying end always moves upward or outward away from the contents. Remove all the containers from the two large boxes, and be very careful that some of the smaller items are not discarded with the packing. If conditions permit, the boxes and packing should be saved for future shipment.

## 5. INSTALLATION.

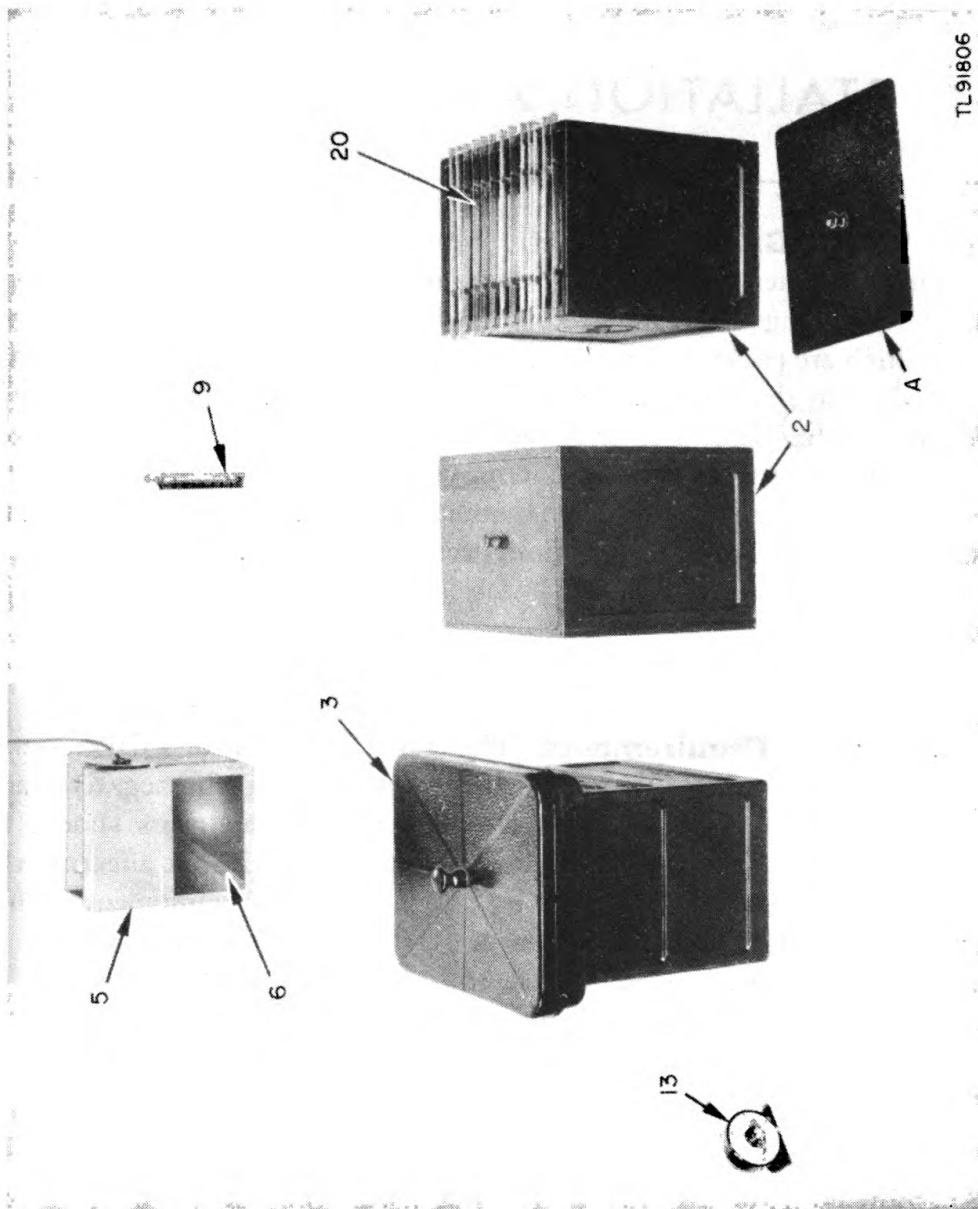
**a. Darkroom Requirements.** The first requirement of a darkroom is that it be dark, with no white light leaking in to fog the negatives and prints. While all white light should be excluded, safelights should be arranged to give as much illumination as is possible without affecting the sensitized material being handled (fig. 7). The second requirement is that the necessary equipment and apparatus be arranged to allow the work to progress in the most convenient and efficient manner with a minimum of lost motion. This requirement is often overlooked, or at least improperly handled, because of the many factors, such as temporary setups and limited space, involved.

**b. Position of Safelights.** The placement, as well as the size and type of safelight lamp, depends on the purpose which the light is to serve. The various units can be classed roughly into two divisions. The manner in which the two types are combined depends on the size of the room and the type of the work.

(1) GENERAL. Those which supply subdued illumination over the whole room without concentration at any one point.

(2) LOCAL. Those which supply higher illumination on some particular point or object.

**c. Safety of Safelights.** Any photographic material fogs if left too long under a safelight. All Wratten safelights, when used with the recommended bulb and at the recommended distance, are safe for at least 30



- 2. Box PH-143.
- 3. Tank PH-185.
- 5. Lamp PH-207-A.
- 6. Safelight PH-364.

- 9. Thermometer PH-28.
- 13. Timer PH-109.
- 20. Hanger PH-71.
- A. Cover for Box PH-143.

Figure 6. Setup for film developing.

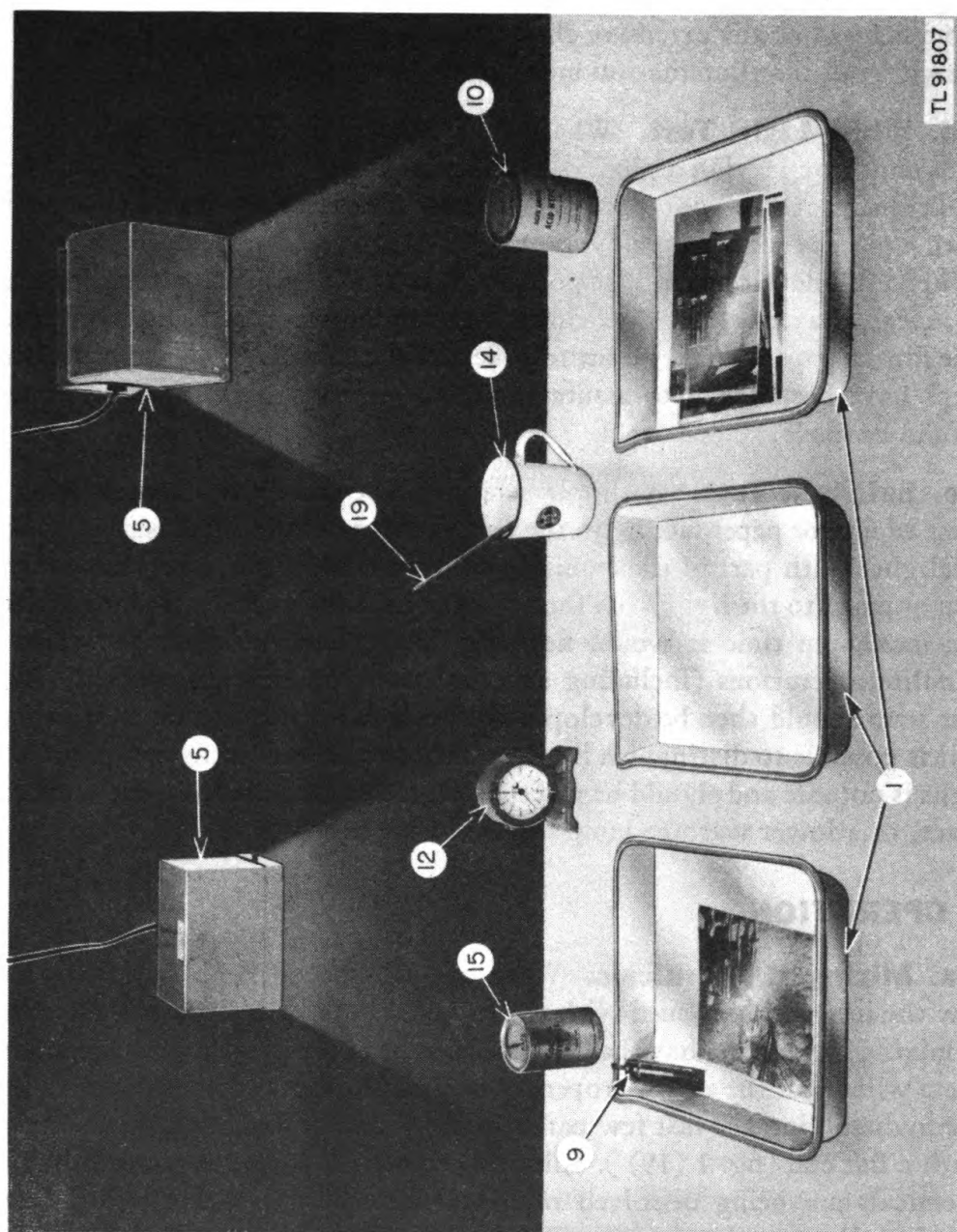
seconds with dry materials for which they are recommended, and for a longer time when the material is in the developer. Whenever the new darkroom is fitted or any extensive changes are made in an existing room, check the safety of the illumination under the new conditions.

**d. White Light Test.** Whether the darkroom is really dark can be determined by leaving a piece of film or fast paper emulsion side up on the workbench for 15 minutes or so. A part of the emulsion should be covered with a piece of black paper. No safelight lamp should be on during the test. If, upon full development, the portion covered by the black paper shows up as a clear area against a gray field, the darkroom is not safely light-trapped. The film or paper should be entirely clear if the room is light-trapped. After steps have been taken to assure complete light-trapping, a safelight test should be made.

**e. Safelight Test.** A simple safelight test can be made by leaving a piece of film or paper face up in the part of the working space nearest to the safelight. With part of the emulsion covered with black paper, expose the film or paper to the light from the safelight for a time somewhat longer than the maximum time it would normally be uncovered during the various handling operations (including exposure time for enlarging papers). The test strip should then be developed in the dark for the recommended time. If it is possible to distinguish between the covered and uncovered parts, the light is not safe and should be placed at a greater distance from the working space, or a lower wattage lamp should be used.

## 6. OPERATION.

**a. Mixing of Chemicals.** When mixing photographic solutions, follow the instructions issued with the formulas. The quantities and the order of mixing ingredients have been established by extensive tests, and changing them will affect the useful properties of the solutions. A convenient tool to use in dissolving the last few particles of a chemical is the hard rubber rod with a flat end (fig. 1 (19) ). Solutions should be stirred vigorously while chemicals are being dissolved or when one liquid is being mixed with another. Hypo and other very soluble chemicals form concentrated solutions which are considerably heavier than water; and, when water is added to such solutions, stratification can and often does occur if stirring is insufficient. A solution is not ready for use until it is completely uniform. Most photographic chemicals are ground by the manufacturer before being packaged, with the result that they contain a certain amount of very finely powdered material. This floats in the air easily and during mixing operations it will settle on anything nearby. Hence, powdered chemicals should not be mixed or handled in the darkroom, or any place where the dust could get on photographic film and paper, holders, trays, or other objects which later come in contact with sensitized materials. Such dust may cause spots and



- |                            |                          |
|----------------------------|--------------------------|
| 1. Trays PH-161.           | 12. Timer PH-29.         |
| 5. Lamps PH-207-A.         | 14. Cup PH-60.           |
| 9. Thermometer PH-28.      | 15. Chemical, developer. |
| 10. Chemical, acid-fixing. | 19. Rod PH-230.          |

*Figure 7. Setup for paper developing.*

streaks on film or paper handled in the same darkroom long after the chemicals have been used up. Cleanliness in the darkroom is essential. Solutions are bound to spill and splash occasionally, but, when they do, they should be wiped up immediately and the spot washed with a wet cloth. Otherwise, the solution dries and the resulting powders are thrown into the air with every rub scrape, and can spoil a quantity of film and paper. It is hard to lay down basic rules for mixing solutions, because a good deal depends on experience and the rest on common sense. However, here are a few:

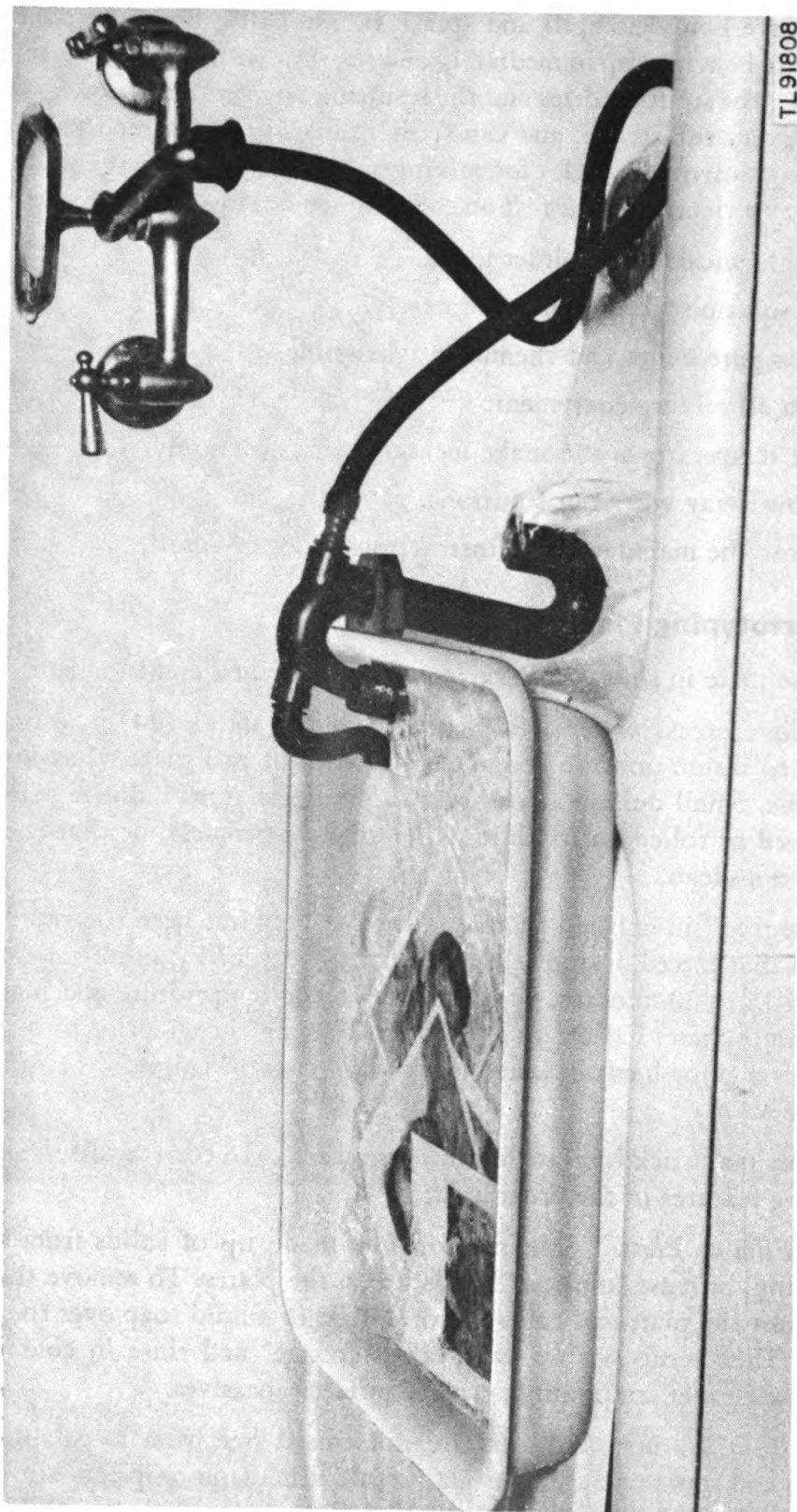
- (1) Mix chemicals in the order given.
- (2) Mix solutions thoroughly and neatly.
- (3) Use as pure water and chemicals as possible.
- (4) Clean all mixing equipment.
- (5) Take temperatures and make measurements accurately.
- (6) Throw away worn out solutions.
- (7) Follow the manufacturer's instructions in every detail.

#### **b. Ferrotyping Plate (fig. 1 (25)).**

- (1) Rinse plate in *clean*, cold water and apply prints, emulsion side down.
- (2) Remove excess water with Roller PH-204 (fig. 1 (24) ), using firm pressure to insure uniform contact between print and plate, thus insuring high gloss. Small dull spots or "specks" in dried print indicate print was not pressed or rolled on to plate with sufficient firmness, or that the rinse water is not clean.
- (3) "Ridging" in finished prints indicates drying has been too rapid. It is essential that forced drying (electric fan) be preceded by an initial "setting time" of 15 to 30 minutes, depending upon the temperature and humidity of the atmosphere. Failure to allow this "setting time," prior to use of an air blast on print-loaded plates, is likely to cause "Ridging" or to reduce gloss, or both.
- (4) Prints may stick to plate for various reasons. To correct this, check the following features in the order named:

(a) *Film on Plates.* Sometimes a film made up of solids from water, developing, or rinse solutions builds up on the plates. To remove the film, simply wet the plate and rub a bar of Castile or a mild soap over the entire surface. Then scrub with a wet rubber sponge, and rinse in cold water. Never use cleaner containing even the mildest abrasives.

(b) *Print Rinsing.* If prints are not rinsed free from hypo solutions, sticking and spots or dull areas may result. Emulsion on prints allowed to soak overnight develops adhesive properties and is likely to stick to the plate.



*Figure 8. Washing prints using Siphon PH-244.*

(c) *Hypo*. If old and weak, the hypo may cause sticking. A new bath should be made up. Ideal operating temperature is 70° F, plus or minus 5°.

(5) NEVER STACK ONE PLATE ON TOP OF ANOTHER WHETHER LOADED WITH PRINTS OR NOT. Place plates in racks when loaded with drying prints. After prints are removed, wash the plates with soapy rubber sponge, rinse in plain clean water, dry, and then store in racks to prevent the scratching that results from one plate rubbing against another.

(6) These plates never need be waxed unless to fill scratches resulting from carelessness.

**c. Automatic Tray Siphon. (fig. 1 (23) ).** The tray siphon is an automatic apparatus for quickly and thoroughly removing hypo from films, plates, and prints. The siphon is a simple, S-shaped, hard rubber tube to be hung over the end of a tray placed near a sink (fig. 8) or draining arrangement. Water runs through the top of the siphon into the tray until it is level with the openings in the top bend of the "S." Then, rapidly and automatically, the siphon begins sucking out the water and emptying it into the sink at the same rate that it is being supplied to the tray. When the faucet is turned off, the emptying action stops; when the faucet is turned on again, the siphon automatically resumes sucking out the water. It is so adjusted that the water is constantly maintained at a given level. The siphon converts a tray into a washing machine of high efficiency. Because of the shape of the entrance and exit pipes, fresh water enters and circulates around the entire area of the tray before it is drawn off into the sink. The water has to travel around the tray before it is sucked out (fig. 9). Place the siphon over the edge of a tray, and make it secure by turning the octagon collar so that it acts as a wedge between the tray and the siphon. The depth of water in the tray is regulated by the position of the siphon on the side of the tray. The higher the intake openings are above the bottom of the tray the greater the depth of water, and vice versa. Holding the collar at the side of the tray, move the siphon up and down to regulate the height. When the siphon has been adjusted to the desired height on the tray, draw the metal screen down until it rests on the bottom of the tray. The rubber faucet adapter (fig. 11) will fit over a standard faucet (fig. 11 (D) ); for some special shaped faucets the adapter may be opened (fig. 11 (C) ). Attach the connecting tube to the water faucet by means of the rubber faucet adapter (fig. 8). Washing prints and washing films or plates require different uses of the siphon. For washing prints, place the siphon at one corner and point down the long side of the tray (fig. 9 (1) ). This starts a whirling motion which keeps the prints constantly moving. Since the tray never fills to the top, prints cannot float over or become congested at the edges. For washing films and plates, move the siphon to the center of the short side of the tray, and place the plates or films (with their clips attached) in rows at the sides to receive the return streams of water (fig. 9 (2) ). As films and plates should

remain still, it is advisable to use a smaller stream of water. This is not a disadvantage as plates and film wash much faster than prints. With sensitized materials varying so much in nature and size, it is difficult to recommend exact washing times. About 10 minutes is quite sufficient for films and plates, but the permanganate test must be relied upon for the particular paper the user prefers. Use the smallest tray and the shallowest level that will do the work. *The smaller the tray the quicker the water changes.*

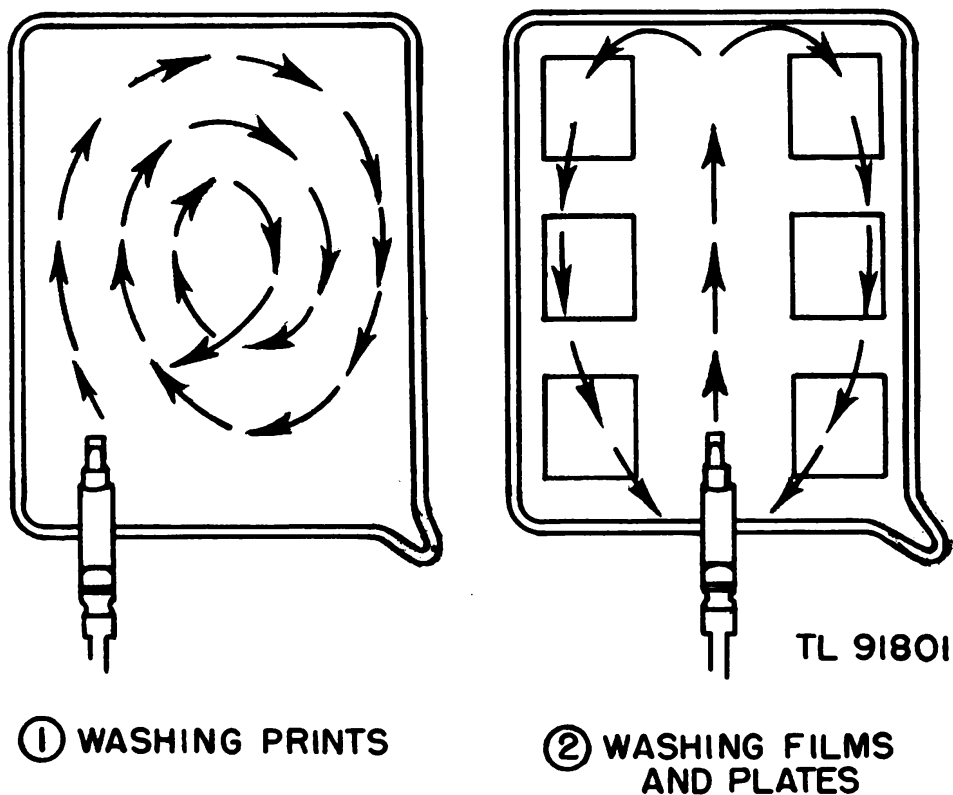
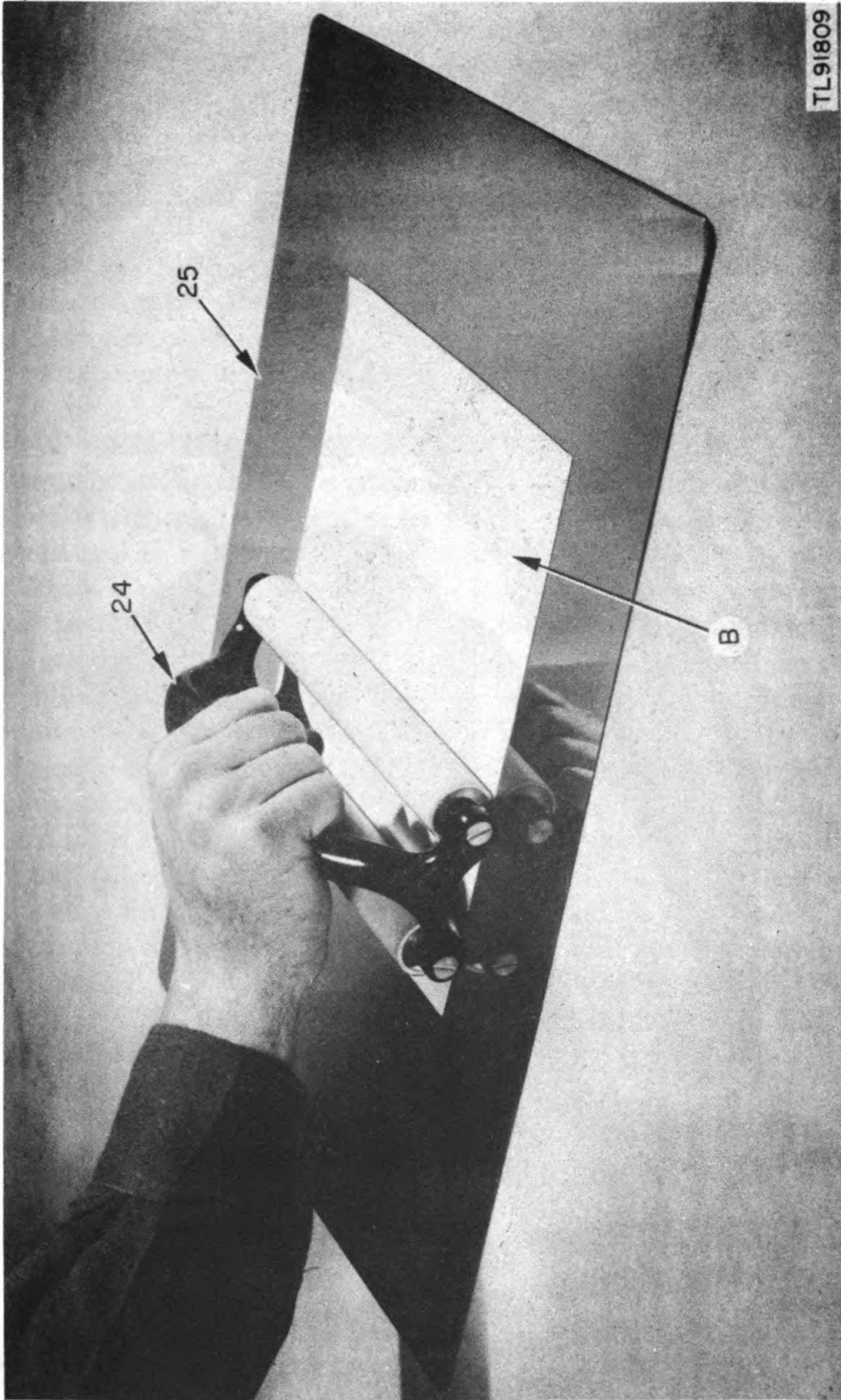


Figure 9. Method of using Siphon PH-244 for washing prints and negatives.

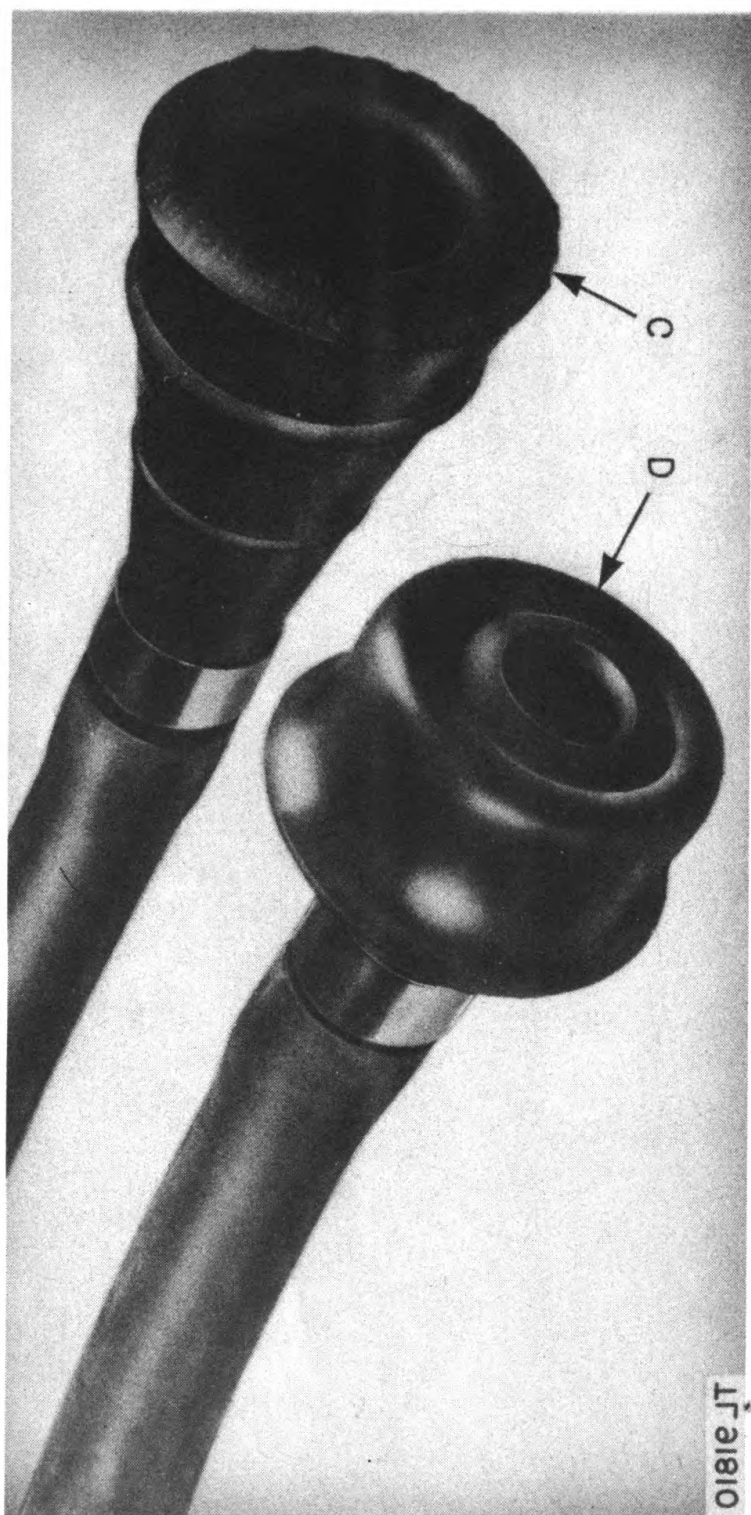


24. Roller PH-204.

B. Glossy print.

25. Plate PH-152-A.

*Figure 10. Ferrotyping prints using Roller PH-204 and Plate PH-152-A.*



C. For special shaped faucets.

D. For standard faucet

*Figure 11. Adjustment of rubber faucet adapter for Siphon PH-244.*

## SECTION III

# MAINTENANCE

---

**7. GENERAL.** Maintain cleanliness in the darkroom at all times. Otherwise sensitized material will be ruined by coming into contact with contaminated apparatus. For example, keep trimmer free from chemicals which would contaminate sensitized paper while it is being cut.

**8. TANK AND TRAY THERMOMETERS.** The Kodak tank and tray thermometer (fig. 1 (9) ) is provided with a spring clip, which acts as a standard for tilting the thermometer to a convenient angle for reading when it is used in a tray. This clip is pivoted so it can be swung up and formed into a hook to fit over the edge of a tank. All thermometers are made with air in the stems. Frequently during shipment, the liquid will be driven from the bulb into the stem of the tube, partly, and sometimes completely, filling the stem and leaving a vacant space in the bulb, or it may be only separating in the stem. When received in this condition, the thermometer can be restored to perfect working order by carrying out the following instructions: Hold the thermometer in one hand in an upright position with the bulb end down, and gently tap it against the palm of the other hand, using care not to strike the tube. This will start the liquid down towards the bulb. Continue this until the liquid is all united. If any part of the liquid is separated, the thermometer will not read correctly. THERMOMETERS SHOULD BE EXAMINED IMMEDIATELY UPON RECEIPT. IF THE LIQUID IS SEPARATED, FOLLOW THE ABOVE INSTRUCTIONS AT ONCE.

## SECTION IV SUPPLEMENTARY DATA

### 9. MAINTENANCE PARTS LIST FOR PHOTOGRAPHIC EQUIPMENT PH-383.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 1 (8)	8A90	APRON: rubber.	1		*		**	**	*
Fig. 1 (7)	8A105B	BAG: photographic changing; PH-105.	1		*		**	**	*
Fig. 2	8A404	CAMERA EQUIPMENT: PH-104. (See TM 11-2352.)	1						
Fig. 1 (21)	8A823	CLIP: photographic film; wood; 3 in.; PH-23.	36		*		**	**	*
	8A828	CONNECTOR: battery, heavy duty; 2 conductor; No. 16 AWG wire, 2 ft. c; female plug and 2 battery clips.	1		*		**	**	*
Fig. 1 (14)	8A860	CUP: measuring; PH-60.	1				**	**	*
Fig. 1 (22)	8A1175	FUNNEL: enamel; 1 pint; 6- $\frac{1}{4}$ " for mixing chemicals; PH-175.	1				**	**	*
Fig. 1 (11)	8A1410	GRADUATE: measuring; PH-10.	1		*		**	**	*
Fig. 1 (20)	8A1601	HANGER: developing; PH-71.	12				**	**	*
Fig. 2 (F)	8A1701	HOLDER: film; PH-81. (See paragraph 10.)	6						
	8A1897	JUG: battery; filler type; PH-297.	3				**	**	*
Fig. 1 (5)	8A2107-A	LAMP: darkroom; PH-207-A.	2				**	**	*
Fig. 3	8A1057C	EXPOSURE METER: PH-77-C. (See TM 11-2351.)	1						

Fig. 1 (25)	8A29-52A	PLATE: ferrotype; PH-152-A.	6	*		**	*
Fig. 4	8A3119-192	PRINTER: contact; Pako 5" x 7"; PH-192. (See TM 11-2385.)	1			**	
Fig. 1 (19)	8A3430	ROD: stirring; PH-230.	1			**	*
Fig. 1 (24)	8A3458-204	ROLLER: print; PH-204.	1			**	*
Fig. 1 (6)	8A3505-364	SAFELIGHT: 5" x 7"; PH-364.	2			**	*
Fig. 1 (23)	8A3688	SIPHON: tray; PH-244. (See paragraph 11.)	1				
Fig. 1 (2)	8A243	TANK: developing or fixing; hard rubber; PH-143.	2			**	*
Fig. 1 (3)	8A3727-85	TANK: developing; PH-185.	1			**	*
Fig. 1 (9)	8A3828	THERMOMETER: photographic; PH-28.	2	*		**	*
Fig. 1 (12)	8A3829	TIMER: PH-29. (See paragraph 12.)	1				
Fig. 1 (13)	8A3830	TIMER: PH-109. (No list.)	1				
Fig. 1 (1)	8A3911	TRAY: photographic; PH-161.	4			**	*
Fig. 1 (1)	8A3916	TRAY: photographic; PH-166.	1			**	*
Fig. 1 (4)	8A4008	TRIMMER: print; PH-8. (See paragraph 13.)	1				

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

# 10. MAINTENANCE PARTS LIST FOR HOLDER PH-81.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 2 (F)	8A1701/1	SLIDE: 4" x 5"; Graphic film holder; consists of 4-1/4" x 5-1/4" hard rubber slide, FG No. 3931; riveted steel slide pull, FG No. 8032; iron slide handle, FG No. 8035.	2		*		**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

# 11. MAINTENANCE PARTS LIST FOR SIPHON PH-244.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 11	8A368/A1	ADAPTER: rubber, w/brass nozzle; 2-1/4" lg overall; 7/16" diam hole in one end to accommodate water spigot; inverted lip 1" lg. x 1-1/2" diam; brass nozzle other end, 3/4" lg x 1-5/16" diam W/3 encircling grooves; fastens hose to adapter; attached to rubber portion w/brass securing ring.	1				**	**	*
Fig. 8	6Z6017-1	HOSE: siphon; soft rubber; OD 9/16", ID 3/8", 3/32" thk, 4 ft lg.	1				**	**	*
Fig. 8	8A3688/N1	NUT: clamping; rubber; octagonal shape; 1" lg sides, 1/2" thk, 1-1/4" diam hole through nut w/center of hole 1/2" off center of nut.	1				**	**	*
Fig. 8	8A3688/S1	SCREW: brass; punched holes; bent into hollow cylinder 1-1/2" lg x 1-1/4" diam w/5/16" compression gap of OD.	1				**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

## 12. MAINTENANCE PARTS LIST FOR TIMER PH-29.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orign stock	3d ech	4th ech	5th ech	Depot stock
Fig. 7 (12)	8A3829/G1	GLASS: clear; round; 3-1/4" diam x 1/16 inch thick; used in face of timer.	1		*		**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

### 13. MAINTENANCE PARTS LIST FOR TRIMMER PH-8.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 1 (4)	8A4008/B1	BLADE: cutter; ingento; CRS; steel; curved edge; over-all dimen 17- $\frac{1}{2}$ " x 1- $\frac{1}{2}$ " x $\frac{1}{8}$ "; fastened to handle w/four $\frac{1}{4}$ " holes to accept $\frac{1}{4}$ " -20 screws.	1				**	**	*
Fig. 1 (4)	8A4008/S1	SPRING: steel; tension; black-lacquered finish; over-all dimen without tension 1- $\frac{3}{4}$ " x $\frac{3}{4}$ " OD x $\frac{1}{8}$ " diam wire.	1				**	**	*
Fig. 1 (4)	8A4008/N1	NUT: steel; hex; HD; $\frac{1}{2}$ " -13 w/ $\frac{1}{8}$ " hole drilled through side to anchor spring.	1				**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.









## SECTION IV SUPPLEMENTARY DATA

### 9. MAINTENANCE PARTS LIST FOR PHOTOGRAPHIC EQUIPMENT PH-383.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run- ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 1 (8)	8A90	APRON: rubber.	1		*		**	**	*
Fig. 1 (7)	8A105B	BAG: photographic changing; PH-105.	1		*		**	**	*
Fig. 2	8A404	CAMERA EQUIPMENT: PH-104. (See TM 11-2352.)	1						
Fig. 1 (21)	8A823	CLIP: photographic film; wood; 3 in.; PH-23.	36		*		**	**	*
	8A828	CONNECTOR: battery, heavy duty; 2 conductor; No. 16 AWG wire, 2 ft. c; female plug and 2 battery clips.	1		*		**	**	*
Fig. 1 (14)	8A860	CUP: measuring; PH-60.	1				**	**	*
Fig. 1 (22)	8A1175	FUNNEL: enamel; 1 pint; 6- $\frac{1}{4}$ " for mixing chemicals; PH-175.	1				**	**	*
Fig. 1 (11)	8A1410	GRADUATE: measuring; PH-10.	1		*		**	**	*
Fig. 1 (20)	8A1601	HANGER: developing; PH-71.	12				**	**	*
Fig. 2 (F)	8A1701	HOLDER: film; PH-81. (See paragraph 10.)	6						
	8A1897	JUG: battery; filler type; PH-297.	3				**	**	*
Fig. 1 (5)	8A2107-A	LAMP: darkroom; PH-207-A.	2				**	**	*
Fig. 3	8A1057C	EXPOSURE METER: PH-77-C. (See TM 11-2351.)	1						



# 10. MAINTENANCE PARTS LIST FOR HOLDER PH-81.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 2 (F)	8A1701/1	SLIDE: 4" x 5"; Graphic film holder; consists of 4-1/4" x 5-1/4" hard rubber slide, FG No. 3931; riveted steel slide pull, FG No. 8032; iron slide handle, FG No. 8035.	2		*		**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

# 11. MAINTENANCE PARTS LIST FOR SIPHON PH-244.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spars	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 11	8A368/A1	ADAPTER: rubber, w/brass nozzle; 2- $\frac{1}{4}$ " lg overall; 7/16" diam hole in one end to accommodate water spigot; inverted lip 1" lg. x 1- $\frac{1}{2}$ " diam; brass nozzle other end, $\frac{3}{4}$ " lg x 1-5/16" diam w/3 encircling grooves; fastens hose to adapter; attached to rubber portion w/brass securing ring.	1				**	**	*
Fig. 8	6Z6017-1	HOSE: siphon; soft rubber; OD 9/16", ID $\frac{3}{8}$ ", 3/32" thk, 4 ft lg.	1				**	**	*
Fig. 8	8A3688/N1	NUT: clamping; rubber; octagonal shape; 1" lg sides, $\frac{1}{2}$ " thk, 1- $\frac{1}{4}$ " diam hole through nut w/center of hole $\frac{1}{4}$ " off center of nut.	1				**	**	*
Fig. 8	8A3688/S1	SCREW: brass; punched holes; bent into hollow cylinder 1- $\frac{1}{2}$ " lg x 1- $\frac{1}{4}$ " diam w/5/16" compression gap of OD.	1				**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

## 12. MAINTENANCE PARTS LIST FOR TIMER PH-29.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orign stock	3d ech	4th ech	5th ech	Depot stock
Fig. 7 (12)	8A3829/G1	GLASS: clear; round; 3-1/4" diam x 1/16 inch thick; used in face of timer.	1		*		**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

### 13. MAINTENANCE PARTS LIST FOR TRIMMER PH-8.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
Fig. 1 (4)	8A4008/B1	BLADE: cutter; ingento; CRS; steel; curved edge; over-all dimen 17- $\frac{1}{2}$ " x 1- $\frac{1}{2}$ " x $\frac{1}{8}$ "; fastened to handle w/four $\frac{1}{4}$ " holes to accept $\frac{1}{4}$ " -20 screws.	1				**	**	*
Fig. 1 (4)	8A4008/S1	SPRING: steel; tension; black-lacquered finish; over-all dimen without tension 1- $\frac{3}{4}$ " x $\frac{3}{4}$ " OD x $\frac{1}{8}$ " diam wire.	1				**	**	*
Fig. 1 (4)	8A4008/N1	NUT: steel; hex; HD; $\frac{1}{2}$ " -13 w/ $\frac{1}{8}$ " hole drilled through side to anchor spring.	1				**	**	*

\* Indicates stock available.

\*\* Parts may be requisitioned as needed for depot stock.

